Credible Commitment in Covert Affairs*

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March 5, 2018

Abstract

A recurring challenge in politics is to convince actors to take cooperative actions against their self-interest. This is especially challenging for executives conducting covert activities, as infractions are unobservable and institutional reforms often require the executive's consent. We develop a model based in the auditing literature to investigate when executives agree to reforms that credibly constrain their behaviors. If the revelation cost falls in a high range, the risk of whistleblowing convinces executives to restrain themselves. Executives cannot credibly commit to this when the costs are low, resulting in inefficient investigations from watchdog groups that tax executive resources. We show that executives are sometimes better off in the first case than the second, which results in executives endogenously creating higher costs of violation. We illustrate the mechanism with a case study of Gerald Ford's executive reforms to the intelligence community in the 1970s.

^{*}Forthcoming, American Journal of Political Science. We thank Michaël Aklin, Emiel Awad, Michael Colaresi, Luke Condra, Brent Durbin, Ryan Grauer, and Meredith Wilf for their comments on earlier drafts.

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1 Introduction

Convincing political actors to behave cooperatively against their narrow self-interest is a perennial challenge. One common solution is to impose penalties on those who engage in uncooperative behavior. If states fail to adhere to their treaty obligations, for example, other signatories can reciprocate noncompliance in later periods. In domestic affairs, politicians who break the law may be removed from office or arrested.

For such solutions to work, however, the offender's violation must be detectable. The tractability of this detection problem varies across domain and issue area. Nowhere is it more pernicious than in the realm of national security secrecy (Kurizaki 2007; Colaresi 2014; Carson and Yarhi-Milo 2017). Activities in this arena are by their very nature concealed from public view¹; perpetrators intentionally obfuscate what may or may not have occurred. Moreover, reforms such as international treaties or domestic legal prohibitions generally require the executive's consent. It is unclear why political leaders would agree to measures that commit them to inaction.

Yet hope may not be lost. Consider Gerald Ford's reaction to the multiple scandals gripping the United States in the mid-1970s. Revelations of domestic spying, covert meddling in foreign elections, and alleged assassination plots implicating several administrations dating back to Dwight Eisenhower generated outrage among the public, the media, and Congress. In response, Ford sponsored new laws that facilitated whistle-blowing and increased the punishment he would face should watchdog groups uncover objectionable covert actions in the future. He then followed through.

Under what conditions will executives alter their strategic environment to make otherwise incredible commitments—specifically, to refrain from abusing their covert powers—credible?² We find that consenting to additional punishments and creating incentives for whistleblowers to come forward have a constraining effect when watchdog groups can reveal covert actions. Counterintuitively, executives benefit from these constraints because they resolve credibility problems. Absent strong sanctions for taking covert actions, watchdog organizations tax executive resources in search of evidence. By consenting to greater expected punishment, executives can commit to promises not

¹In the U.S., this is most acute for "Title 50" operations, or those carried out by the Intelligence Community. It may also apply to some "Title 10" missions (Department of Defense operations) when they involve special forces.

²This question presupposes that constraint is possible, and we address that question along the way.

to pursue questionable covert actions. This has a second-order effect of reducing investigations, which improves their overall welfare.

To develop this logic, we construct a model in which an executive chooses whether to take covert action, defined as operations that conceal the sponsor's involvement (Joseph and Poznansky 2017). The model also includes a whistleblower who can reveal the covert action and a watchdog organization that can exert effort to discover what happened. Before choosing whether to take the action, the executive can increase his expected punishment for a covert operation.

The choice to do so depends on the status quo exposure costs, which existing legal rules or political norms determine. When exposure costs are low, the executive takes covert action even if whistleblowers will leak information and watchdog organizations will investigate. Put simply, if executives do not suffer much if their covert activities are revealed, they run the risk of incurring minimal costs to enjoy the benefits of the action. It's not that executives are unable to make credible commitments under these circumstances—it's that they don't want to.

Meanwhile, when the costs of exposure fall in a middle range, the executive sometimes takes covert action and sometimes does not. This puts watchdog organizations in a quandary, unsure whether to invest resources searching for evidence of what may or may not have occurred. Consequently, the watchdog reduces its effort compared to a world in which the executive had certainly taken covert action. These dynamics produce an interesting welfare implication. One may suspect that the executive benefits from tricking the watchdog into reducing its investigative effort. This is not the case. Although the executive benefits from that outcome when it occurs, the fact that the watchdog also investigates in situations when he did not take covert action reduces his payoff. In fact, the executive is strictly worse off when he tries to fool the watchdog than in cases when he can credibly commit to not taking covert action.

This welfare comparison explains why executives may voluntarily increase their expected punishment for a covert operation. In short, executives facing middling exposure costs have incentives to intensify that burden and facilitate whistleblowing, make their commitment credible, and benefit from the reduced scrutiny from the watchdog. They therefore champion such laws. We illustrate this logic using Gerald Ford's series of reforms to the intelligence community in the 1970s.

This article makes several contributions. Substantively, it complements existing

informal studies of how and why reform transpires in the realm of covert affairs.³ Although our case study focuses on domestic measures, we also provide new insights into why executives might sign and abide by international agreements. Treaties change incentives by mobilizing domestic supporters to punish leaders for violation of a provision (Dai 2005; Simmons 2009). We show that such constraints work even if monitoring is imperfect.

Formally, our model speaks to the auditing literature (Baron and Besanko 1984; Khalil 1997). Unlike standard employment settings, incentive structures for political executives entail some unique challenges. Budget constraints prohibit sufficient monetary compensation to disincentivize bad behavior, and term limits can shrink time horizons. It may also be difficult to simply "fire" the executive and find a compliant replacement. Perhaps the biggest challenge of all, actually changing the incentive structure often requires the executive's consent. This seems to stack the deck against institutional reform. Yet we find cause for optimism.

2 The Challenge of Secrecy

An essential aspect of any compliance problem is identifying when violations have occurred. The prospect of punishment—whether reciprocating non-cooperative behavior or punishing leaders at the ballot box (Grossman and Baldassarri 2012)—is meaningless if violators go undetected. This is one reason why international institutions, which provide information to relevant parties about (un)cooperative behavior, facilitate compliance in world politics (Keohane and Martin 1995). Within states, the existence of well-informed domestic groups affect whether governments comply with international agreements (Dai 2005, 365). When it comes to certifying that executives are abiding by domestic agreements and standards of behavior, legislatures often utilize "fire alarm" systems which rely on individuals and interest groups to detect violations (McCubbins and Schwartz 1984).

The covert sphere, known for its opacity, poses unique challenges for compliance. As Colaresi (2014, 1) asks, "How can the public be confident that foreign policy programs advocated by the executive will enhance security if that same leader also has the power to selectively reveal and hide relevant information?" One answer is retrospective

³See, for example, Johnson 1989 and Lester 2015.

oversight institutions such as freedom of information laws, a free press, and investigative bodies. "Retrospective oversight," notes Colaresi (2014, 145), "provides executives with disincentives to abuse the capacity for secrecy, and in turn this increases public confidence that their ballots, bucks, and sometimes blood are fueling foreign policy success."

Retrospective oversight institutions are an important means for attaining compliance in the covert sphere. Nevertheless, several issues linger. First, even if these institutions enhance accountability and compliance, it is not obvious why executives would agree to reforms that tie their own hands. Moreover, there is no role for whistleblowers, who are key sources of information. Finally, the prospect of latent declassification is not a panacea either because executives can often keep sensitive documents classified for decades, reducing disincentives for conducting questionable covert activities.

The theory developed in this article addresses several strategic challenges left unanswered by existing scholarship. A simple model illustrates the nature of the problem. Consider a world in which executives choose whether to take covert action and a watchdog, without observing this decision, chooses whether to investigate. Further, suppose that (1) investigations surely uncover the action if the executive took it and find nothing otherwise, (2) investigations are costly but discovery provides the watchdog some benefit, and (3) the executive would only want to take the action if he knew he would not get caught.

How would this interaction play out? Given the assumptions, neither actor can behave predictably. The executive would not want to take covert action if he knew the watchdog would investigate. But if the executive would not take covert action, the watchdog would not want to pay to investigate. Yet if the watchdog were to not investigate, the executive reverts to wishing to take covert action. And if the executive is taking covert action, the watchdog would want to investigate.

Researchers familiar with such cycles will recognize that the actors must randomize. But how actors change their mixing patterns in response to changes to their underlying constraints is not obvious (Tsebelis 1989). Welfare implications can also be counterintuitive. For example, it appears that randomization allows executives to fool watchdogs into not uncovering what has occurred. Yet we show the ability to trick watchdogs can actually hurt more than it helps. We thus develop a model below to unpack the incentives.

Modeling also allows us to incorporate a number of strategic constraints that may otherwise get lost in the shuffle. The above scenario, though intuitive, is missing many critical components from substantively important examples:

- Executives may prefer taking certain covert actions and risk getting caught relative to inaction (e.g., Reagan's support to the Contras).
- Investigation is not binary. Journalism divisions allocate labor for additional stories, other branches of government dedicate time to other policy issues, and international organizations face budget constraints.
- Observed outcomes may induce watchdogs to update their beliefs about the executive's decision. After the fall of a foreign government, for example, watchdogs may be more likely to suspect that the executive played a role than if the foreign government remained stable.
- Investigations may not always reveal covert action.
- Covert operations entail direct costs regardless of whether watchdogs uncover the truth. At a minimum, they require funding. They may also require effort to sanitize equipment (Carson 2016, 107) and may put the country's covert operators at risk.
- There is no institutional design of exposure costs. That is, political actors have no opportunity to manipulate their potential punishment through the creation of new laws or by signing international treaties. Gerald Ford's response to the various crises in the mid-1970s illustrates these kinds of actions.

Beyond these points, other entities can bring information to light. Whistleblowers may come forward, and they have separate incentives. These actors observe actions directly and therefore have no need to exert effort to find violations whereas watchdogs only have beliefs about what may have occurred and must therefore work to uncover information. Whistleblowers also have opposite incentives for revealing secret operations. For them, revelation is costly—they risk legal action and may have to flee the country to avoid prosecution. In contrast, watchdogs pay costs for the search itself, regardless of what they find. However, they find discovery beneficial. This may be

	Whistleblower	${f Watchdog}$
Information Known	Observes Action	Only Beliefs
Learning Process	No Learning Necessary	Can Invest to Learn
Value for Revelation	Incurs Costs	Benefits
Examples	Executive's Staff	Legislators, The Media

Table 1: Qualitative Differences Between Whistleblowers and Watchdogs In Our Framework.

because the media can break the news story and garner higher ratings, a legislator can establish herself within the political hierarchy, or a non-profit organization can drive more donations to its doors.⁴

The presence of whistleblowers may be critical to obtaining compliance. In the standard auditing framework, equilibria in which the executive never takes covert action do not exist without whistleblowers—watchdogs that believe there is nothing to find exert no effort, which in turn makes the executive want to cheat. To obtain compliance, then, some other factor must influence the parties (Warren 2012).⁵ Whistleblowers may serve this role, and we now turn to the model to find out precisely how this works.

3 Model

The game consists of three players: an Executive, a Watchdog group, and a Whistleblower. Play begins with an institutional design choice from the Executive. Specifically, he chooses a value $k \geq \underline{k}$ as his cost for getting caught taking covert action. The value $\underline{k} > 0$ reflects the punishment under current legal rules or political norms; higher values of \underline{k} reflect greater outrage in response to revelation. The existence of the lower bound

⁴Although we mainly conceive of Congress as a watchdog in this setup, the reality is more complicated. In the U.S., all presidents after 1974 must issue "Findings" to the House and Senate intelligence committees justifying their desire to pursue covert action. When this occurs, members of Congress become whistleblowers. Even with these requirements, presidents may circumvent these procedures, which is likely for controversial actions. Thus, the most consistent whistleblowers are those involved in or privy to the planning and execution of (controversial) covert operations, not "extra-executive" entities that sometimes enjoy the same status if proper procedures are followed.

⁵Warren's model, for example, features a watchdog that has a small positive bias in favor of the executive. This causes it to exert effort even when it believes the executive took the right action so it can reveal positive information.

 \underline{k} reflects the notion that an Executive cannot easily escape these dynamics.⁶ One can conceptualize choosing a $k > \underline{k}$ as signing international treaties against the behavior in question or the executive creating new domestic laws that would yield punishment for violations. We would initially suspect that the Executive would only choose \underline{k} , as any other values risk greater punishment. Yet the key result we prove is that the executive sometimes chooses values above \underline{k} .

After the Executive's institutional design decision, Nature draws the Whistleblower's value for revelation v > 0 from a commonly known distribution F(v). One could conceptualize v as the Whistleblower's value for justice, but lower values also reflect greater legal or personal risks for coming forward. Without loss of generality, assume that $v \in [0, 1]$. We make no functional form assumptions about F(v) other than that it has positive density on that whole interval. Only the Whistleblower observes Nature's draw.

Next, the Executive chooses whether to take covert action. One could conceptualize this as attempting to secretly assassinate a foreign leader or quietly meddling in a foreign election. The Executive values taking these actions but they also impose two costs. Taking covert action costs the Executive c > 0 immediately. He may also pay another cost k > 0 if the covert action is later revealed.

The Whistleblower observes the Executive's move, but the Watchdog does not. Instead, the Watchdog merely sees an observable outcome. This observation is noisy. If the Executive took covert action, it may fail. Likewise, the Executive's desired result may occur even if he did nothing. For example, if the Executive wishes to overthrow a foreign leader, that may regardless of outside influence. Formally, if the Executive did not take covert action, the desired outcome does *not* occur with probability q and occurs with probability 1-q. If the Executive took covert action, the desired outcome does not occur with probability pq and occurs with probability 1-pq.

After observing the outcome, the Watchdog exerts effort $e \ge 0$. This represents how much the media spends in developing the story or how many resources an opposing political body commits to check the executive, for example. If the Executive did not

⁶Later, we discuss what happens if this were not the case; surprisingly, the Executive may prefer a relatively high value for k to 0.

⁷To conceptualize this, a foreign leader must survive domestic challengers (doing so with probability q) and the covert action (doing so with probability p) to maintain power. Thus, the overall probability of staying in office is pq.

take covert action, no amount of effort will reveal anything as there is nothing to uncover. If the Executive took covert action, then the amount of effort the Watchdog exerts determines the probability it discovers the covert action.

Let $g(e) \mapsto [0,1]$ be a continuous function mapping effort to a probability of revelation. To keep this game general, we only make three assumptions about g(e). First, g(0) = 0. That is, the Watchdog never discovers the covert action on its own if it exerts no effort. Second, g'(e) > 0 for all e for which g(e) < 1 and g'(e) = 0 for all e for which g(e) = 1. This implies that the Watchdog is more likely to discover the covert action the more effort it exerts. However, if an effort level exists that guarantees discovery, then choosing any additional effort still guarantees discovery. And third, g''(e) < 0 for all e for which g(e) < 1 and g''(e) = 0 for all e for which g(e) = 0. This means that there are diminishing marginal returns to effort.

Finally, if the Executive took covert action and the Watchdog did not discover it, the Whistleblower can still reveal it.

Payoffs are as follows. Without loss of generality, the Executive earns 1 if he obtains his goal and 0 if it does not. Regardless of his choice, the Executive suffers the amount of effort the Watchdog exerts, scaled by $\alpha > 0$; the larger α is, the more he suffers from investigation relative to the benefit for his preferred outcome.⁸

In addition, if the Executive took covert action, he pays c for the cost of the operation and an additional k if discovered or revealed. All told, his utility for not taking covert action is $(1-q)(1) + q(0) - \alpha e = 1 - q - \alpha e$. Meanwhile, letting r be the overall probability that covert action is discovered or revealed, the Executive's utility for taking covert action is $(1-pq)(1) + pq(0) - c - k - \alpha e = 1 - pq - c - rk - \alpha e$.

The Watchdog gains benefit $\beta > 0$ for revelation of a covert action, whether through its own discovery or via the Whistleblower.⁹ Exerting effort is costly, however, and we reflect this with a marginal cost m > 0. Thus, the Watchdog's overall utility is

⁸This can be conceptualized as a loss of political capital or reduced capacity to influence policy debates. Scholars have long held that presidents derive power from their ability to persuade (Neustadt 1960). Investigations may make it harder to do so. They can also drag down poll numbers (Kriner and Schickler 2014), which in turn may limit a president's ability to usher through legislation (Canes-Wrone and de Marchi 2002; Marshall and Prins 2007).

⁹One might imagine that the Watchdog may obtain a larger benefit if it uncovers the covert action itself. This does not change the key theoretical results—it merely alters the cutpoints for some of the parameter spaces because it encourages the Watchdog to exert more effort and not free ride on the Whistleblower.

$$r\beta - me.^{10}$$

Lastly, the Whistleblower earns her drawn value v for revelation. However, blowing the whistle costs her j > 0, which encompasses the legal or societal costs associated with such revelation. Without loss of generality, she receives 0 for maintaining silence.

3.1 Partial Equilibrium Analysis

Although the game starts with the Executive creating institutional constraints, we begin our analysis holding the value of k fixed and solve for the following subgames. We do this for two reasons. First, the equilibrium outcomes with exogenous institutions are interesting in isolation. Second, we must solve for this subgame across all values of k to find the equilibrium of the game with endogenous institutions. This is because choosing k requires the Executive to calculate his payoff for all possible values of k and then select the value that maximizes his payoff for the corresponding subgame.

The appropriate solution concept for an extensive form game with incomplete information is perfect Bayesian equilibrium. PBE ensures that the actions are consistent with the players' beliefs about each player's type and are optimal given the history of play.

Due to the complexity of the interaction, it is worth explicitly stating what an equilibrium consists of. In particular, covert action subgame, an equilibrium specifies whether the Executive takes covert action, the effort levels the Watchdog chooses conditional on the observable outcomes, the Watchdog's belief conditional on those outcomes, and which types of Whistleblowers reveal. Additionally, the full game with an endogenous revelation cost requires the Executive's equilibrium choice for k.

We begin with two preliminaries, starting at the end of the game. When the Whistleblower acts, she knows the Executive has previously taken covert action and that the Watchdog has not discovered it. She faces no uncertainty, so she has a straightforward optimization problem. If she reveals the covert action, she obtains her privately drawn value for revelation v but pays cost j. If she does not reveal the action, she receives 0. Thus, she reveals if v - j > 0, or simply v > j.

¹⁰It may also have some preferences over whether the Executive took covert action or not. However, these are not payoff relevant to the investigation decisions. We therefore omit them.

¹¹In this game, the uninformed actors all move before the fully-informed Whistleblower does. Thus, there is no signaling in this game from the Whistleblower.

The Watchdog's tradeoff is more complicated. The equilibrium requires two strategies for the Watchdog, one after observing the Executive obtain his preferred policy and another after observing the opposite. This is because it does not see whether the Executive has taken the covert action, though it can update its belief based on the outcome. It also anticipates that the Whistleblower may reveal the covert action in the absence of any investigation. Although the Watchdog does not know the Whistleblower's type, it knows the prior distribution F(j). And from the above paragraph, it knows that the probability of drawing a type j lower than v is F(j). Consequently, the probability the Whistleblower will reveal the information regardless of the Watchdog's effort is 1 - F(j).

Because the model uses a general function to map effort to the probability of revelation, we solve for the Watchdog's optimal effort for the appendix. In short, one of two things happen, and the logic is similar regardless of what the Watchdog observes. First, if the Watchdog believes that the Executive took covert action with sufficiently low probability, it exerts no effort. The intuition is obvious if one thinks about the extreme case—the Watchdog has no incentive to pay costs to find something that it knows does not exist.

In remaining cases, the Watchdog exerts effort. Letting ϕ be the Watchdog's belief that the Executive took covert action, the appendix shows that the effort level equals the solution to $g'(e) = \frac{m}{\beta \phi F(j)}$ in non-corner cases.¹² It will prove helpful to define a function that maps the Watchdog's belief to the optimal amount of effort exerted. Call that function $e^*(\phi)$. Thus, for example, $e^*(1)$ represents the Watchdog's equilibrium level of effort conditional on it knowing for sure that the Executive took covert action. To avoid trivialities, we limit focus to cases where $e^*(1) > 0$. This is because if $e^*(1) = 0$, the Watchdog is completely unwilling to investigate regardless of what action the Executive takes.¹³ Regardless, note that this unique solution is increasing in the benefit to revelation β and the belief ϕ but decreasing in its marginal cost of effort m. Intuitively, this is because having a greater benefit to discovery and a greater

¹²It is possible that exerting no effort is optimal because the benefit is too small relative to the marginal cost of effort. It is also possible that the Watchdog would want to exert exactly enough effort to ensure that the probability of discovery is 1. These corner solutions do not impact the results that follow.

¹³The Executive's decision would boil down to a simple weighing of the benefit of success and the risk of the Whistleblower exposing him.

chance of uncovering a covert action incentivize greater effort, while higher marginal costs disincentivize effort.

We are now ready to tackle the Executive's choice, which is more complicated than the Watchdog's. If he takes covert action, he makes the same inference about the Whistleblower's behavior as does the Watchdog and thus knows that the Whistleblower will reveal it with probability 1 - F(j). The Executive also knows that if he predictably takes the covert action, the Watchdog's belief increases and so does its investigative efforts. This is bad for the Executive for two reasons: (1) he is more likely to get caught and (2) it increases the Watchdog's general interference in the Executive's day-to-day affairs. On the other hand, if the Executive never takes covert action, the Watchdog would drop its investigative efforts altogether.

The Executive resolves his dilemma in one of three ways. Below, we separate those cases based on k, the Executive's revelation cost. We begin with sufficiently low costs:

Lemma 1. Suppose revelation cost is sufficiently low (i.e., $k \leq \frac{q(1-p)-c}{1-F(j)+g(e^*(1))}$). Then there exists a PBE in which the Executive always takes covert action.

For intuition, suppose that the Executive certainly takes covert action. The Watchdog does not update its belief based on the observable outcome because it knows the Executive took action regardless. As such, at both its information sets, it exerts $e^*(1)$ effort—that is, the amount of effort consistent with knowing for sure that the executive took covert action. The investigation reveals the Executive's action with probability $g(e^*(1))$, and the Whistleblower reveals it with probability 1 - F(j) if the Watchdog fails. The Executive pays k in these cases, which is supposed to be his deterrent from engaging in the covert action. But if that cost is sufficiently small, gambling on not getting caught is worthwhile. This, in turn, justifies the Watchdog's decision to commit resources under the belief that the Executive certainly took that action, thereby forming an equilibrium.

There are two points worth noting here. First, the numerator represents the net benefit of taking covert action. The probability q(1-p) calculates the portion of the time the Executive achieves his desired outcome attributable to the action; this is lower as q (the probability of success absent covert action) decreases because covert operations can be redundant—for example, toppling a leader is wasted effort if she would have been a coup victim naturally. The subtracted value c is present because,

regardless of success, the Executive must pay a cost associated with taking the action. If that cost is too great—that is, if c > q(1-p)—the operation is not worthwhile even if the Watchdog and Whistleblower would never publicize it. In that case, the right side of the cutpoint becomes negative, and so the always-positive k can never fulfill these parameters.

Second, note that the Executive's disutility for Watchdog effort $\alpha e^*(1)$ does not appear in Proposition 1's cutpoint. This is because the Executive suffers that disutility regardless of whether he took the covert action. In turn, the Executive has a perverse incentive to take the action. If he expects the Watchdog group to exert effort regardless, exercising restraint does not spare him the investigation costs. Such an expectation can pin the Executive into always opting for covert action even when he would prefer no action and no investigation, which leads to the interesting welfare implications we explore later.

If low revelation costs induce the Executive to always take covert action, one might suspect that high costs deter covert action. The following proposition confirms this:

Lemma 2. Suppose the revelation cost is sufficiently high (i.e., $k \ge \frac{q(1-p)-c}{1-F(j)}$). In all PBE, the Executive never takes covert action.

This time, suppose that the Executive never takes covert action. Once more, the Watchdog does not update its belief based on the observable outcome because it knows the Executive did not take covert action regardless. As such, at both its information sets, it exerts $e^*(0) = 0$ effort—that is, it does not investigate at all because there is nothing to investigate. Only the Whistleblower can reveal the action if the executive were to do it, and she would do so with probability 1 - F(j). The Executive would pay k in that case. But if that cost is sufficiently large, the Whistleblower alone is sufficient to deter the Executive. This, in turn, justifies the Watchdog's decision to not commit any resources to an investigation, thereby forming an equilibrium.

Note that if the Watchdog is minimally responsive to the Executive's decision (that is, $e^*(1) > 0$, meaning that the Watchdog exerts at least some effort if the Executive surely takes covert action) and covert action is worthwhile absent the revelation cost (that is, q(1-p) > c), then the parameters for Lemmas 1 and 2 do not cover the entire parameter space. This leads us to our final possibility:

Lemma 3. Suppose revelation cost falls in a medium range (i.e., $k \in \left(\frac{q(1-p)-c}{1-F(j)+F(j)g(e^*(1))}, \frac{q(1-p)-c}{1-F(j)}\right)$).

In all PBE, the Executive mixes between taking covert action and not taking covert action.

Here, the Executive cannot act predictably. If he were to always take covert action, the effort the Watchdog would exert would expose the Executive too often. But if he were to never take covert action, the complete lack of effort from the Watchdog would incentivize the Executive to switch to taking covert action. Instead, the Executive must mix. If the probability he takes covert action is just right, the Watchdog's effort based on that level makes him indifferent between his pure strategies, thus rationalizing the original decision to mix. We save the calculation for this mixture for the appendix, as it requires finding the solution to functions without an explicit form.

It may be conceptually useful to think about the mixed strategy using the purification theorem. One could imagine that the Executive's value for successful covert action is not 1 but rather is drawn from the interval $[1 - \epsilon, 1 + \epsilon]$, with ϵ small. Rather than mixing, those with values higher on the distribution take covert action as a pure strategy, and those with values lower on the distribution do not take covert action as a pure strategy. The purification theorem guarantees that the relative probabilities of the action in pure strategies match the original mixed strategy as ϵ goes to 0.14

In addition to Lemma 3's equilibrium strategies in this subgame, the appendix shows that the indifference conditions allow for mixed strategy equilibria to bleed into Lemma 1's parameter space. Multiple equilibria can therefore exist. However, all such equilibria result in payoffs lower than the equilibrium for Lemma 2's parameters. Consequently, the institutional design choices we analyze do not depend on which equilibrium the players select.

3.2 Institutional Design

We now tackle the institutional design problem, first by endogenizing the punishment the Executive suffers if his covert actions is revealed. As a reminder, this game begins with the Executive choosing $k \geq \underline{k}$. All else equal, one would expect the Executive to choose the minimum value \underline{k} so as to limit the damage he could suffer. However, as Proposition 1 shows, all else is not equal:

 $^{^{14}}$ The purification theorem also implies that the result is not an artifact of complete information about c.

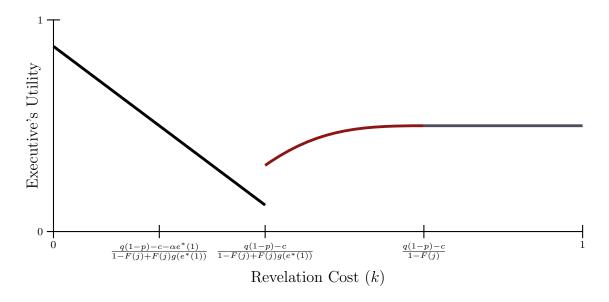


Figure 1: The Executive's expected utility for choosing a value k inside of Lemma 1 (black), inside of Lemma 3 (red), and inside of Lemma 2 (gray).

Proposition 1. If the minimum revelation cost is sufficiently high (i.e., $\underline{k} > \frac{q(1-p)-c-\alpha e^*(1)}{1-F(j)+F(j)g(e^*(1))}$), the Executive chooses a k value at least as large as $\frac{q(1-p)-c}{1-F(j)}$ in all equilibria. If the minimum revelation cost falls below that cutpoint, the Executive chooses the minimum cost \underline{k} .

Figure 1 explains Proposition 1's claim and helps develop an instructive proof. It plots the Executive's utility as a function for k across the three parameter ranges from the above lemmas. When k is below $\frac{q(1-p)-c}{1-F(j)+F(j)g(e^*(1))}$, pure strategy equilibria exist in which the Executive always takes covert action. As the cost k increases, the Executive suffers greater punishment. His utility declines. Meanwhile, when k is above $\frac{q(1-p)-c}{1-F(j)}$, the Executive never takes the covert action. His payoff is simply 1-q; k plays no part in the utility function because there is nothing to reveal.

Middling levels of k induce the Executive to mix. To calculate the Executive's payoff under these conditions, recall that equilibrium constraints require Executive indifference between taking the covert action and not. Therefore, we may calculate the Executive's payoff for the mixed strategy by looking at his utility for not taking the covert action, which is $1 - q - \alpha e$. Keeping the Executive indifferent requires the Watchdog to exert a positive level of effort. Consequently, the Executive's payoff for all mixed strategy

equilibria are bound strictly below 1 - q. ¹⁵

Also note that the Executive's utility for a portion of Lemma 1's parameter space falls below the Executive's utility for the high range of k. As previewed earlier, this is because the Watchdog exerts full effort here, resulting in the moderate k punishment some portion of the time and also causing disutility from the investigation itself. A high value of k exempts the Executive from both of these costs because he can credibly commit to not taking covert action.

Indeed, we can find low values for k that give the Executive a payoff greater than when k is large. From before, the Watchdog would never exert effort greater than $e^*(1)$. This full effort level is the worst-case scenario for an Executive taking covert action. Yet it is still better than Executive's best-case scenario (when the Watchdog exerts no effort) if:

$$1 - pq - c - k[1 - F(j) + F(j)g(e^*(1))] - \alpha e^*(1) > 1 - q$$
$$k < \frac{q(1 - p) - c - \alpha e^*(1)}{1 - F(j) + F(j)g(e^*(1))}$$

This is the cutpoint appearing in Proposition 1 and in Figure 1.

Proposition 1 instructs where the Executive should place k when given the opportunity. If the minimum threshold \underline{k} is below $\frac{q(1-p)-c-\alpha e^*(1)}{1-F(j)+F(j)g(e^*(1))}$, increasing it any amount decreases its overall payoff. Therefore, the Executive would choose the minimum value. However, if the minimum threshold \underline{k} is above $\frac{q(1-p)-c-\alpha e^*(1)}{1-F(j)+F(j)g(e^*(1))}$, increasing k to a value at least as large as $\frac{q(1-p)-c}{1-F(j)}$ counterintuitively generates a strictly greater payoff.

Surprisingly, the region where the Executive maintains the default level of punishment \underline{k} may not exist. That is, the entirety of the black line in Figure 1 may fall below the horizontal gray line. To see this, note k must be less than $\frac{q(1-p)-c-\alpha e^*(1)}{1-F(j)+F(j)g(e^*(1))}$ for that covert action to be preferable to the non-action of Lemma 2. Sufficiently high values of α (which reflects how much the Executive dislikes being investigated) can make the cutpoint negative, making it impossible for the strictly positive k to be less than it. Substantively, this means that parameters exist in which the Executive's ideal revela-

 $^{^{15}}$ The payoff is increasing across the parameter space for the following reason. As k increases, the potential punishment for covert action increases. To maintain the Executive's indifference, the Watchdog decreases its effort. But the Executive never pays the punishment cost if he does not take covert action, and his disutility for the investigation shrinks due to the lower effort. As such, his payoff increases.

tion cost is strictly positive (enough to push it into Lemma 2's range) even if he could choose to suffer no direct consequences. Put differently, if the Executive could choose $k \geq 0$ instead of $k \geq \underline{k}$, he may still choose a value at least as large as $\frac{q(1-p)-c}{1-F(j)}$ over 0.

This proof also reveals two necessary features of the interaction for additional punishment to improve the Executive's welfare. First, the Executive must suffer some disutility from the act of investigation itself (i.e., α must be greater than 0). This disutility causes the lower payoff in the middle region of Figure 1 and bounds the Executive's payoff strictly below his payoff for an outcome with no covert action and no investigation. Given the literature's view of investigations, we do not think this is an empirical problem for our argument.

Second, the probability that the Whistleblower comes forward must be non-zero. One can observe this by replacing F(j) = 1 in Proposition 1's recommended value for k, which renders it undefined. In the absence of a whistleblower, as described before, the Executive cannot credibly commit to never taking covert action. The Watchdog would respond by never investigating, which induces the Executive to wish to change strategies. Under such conditions, the rightmost region of Figure 1 disappears, and the inefficient mixed strategy equilibrium takes its place.

Weak whistleblowering environments may exist empirically. However, Proposition 1 only gave one solution to the problem. In general, the Executive's goal is to take situations where $k < \frac{q(1-p)-c}{1-F(j)}$ and manipulate parameters such that $k \ge \frac{q(1-p)-c}{1-F(j)}$. The following corollary summarizes other ways to do this:

Corollary 1. If the minimum revelation cost falls in a middle range (i.e., $\underline{k} \in \left(\frac{q(1-p)-c-\alpha e^*(1)}{1-F(j)+F(j)g(e^*(1))}, \frac{q(1-p)-c-\alpha e^*(1)}{1-F(j)}\right)$ the Executive can also increase his utility by:

- 1. Decreasing the dangers of whistleblowing, so that F(j) shifts toward zero
- 2. Increasing the cost of taking covert action c
- 3. Increasing the probability that the covert action fails p

Thus, if the Executive faces a situation in which no type of Whistleblower would come forward, he can always increase incentives to whistleblow. Counterintuitively, this can also increase his payoff, just as Proposition 1 said that he may benefit from higher revelation costs.

Besides that, raising the cost of the covert action and making the covert action succeed less often accomplish the same goal. These are substantively different from the first two options, as they make the action itself less attractive rather than increase the expected punishment. But this suggests a problem with manipulating c or p as part of a solution. Because covert actions are not inherently observable, it may be impossible for the executive to credibly commit to laws designed to alter those parameters. In other words, the monitoring problem itself may make them poor solutions to that monitoring problem. This is not the case for whistleblowing, as the whistleblower has perfect information. It is also not the case for the revelation cost, as the executive suffers that amount conditional on a party revealing the covert action.

Regardless, Corollary 1 provides a similar comparative static to Proposition 1 regarding institutional reforms. The lower the original k is relative to the cutpoint in Proposition 1, the larger the necessary reform is. Thus, small k implies bigger decreases in the dangers of whistleblowing, larger cost increases to taking the covert action, and more sizable declines in the probability of successful actions to obtain compliance.

It is also worth noting the Watchdog's parameters—the marginal cost of exerting effort m and the benefit to discovery β —do not appear in the optimal cost chosen. This is because credible restraint requires the Executive to not want to take covert action even if he knew that the Watchdog would exert no effort. The marginal cost of effort plays no role here, and neither does the benefit of discovery.

This speaks to the robustness of our result. In many contexts, one might imagine that increasing the revelation cost also increases the Watchdog's benefit for discovery. For example, the media could write stories contrasting the promises the Executive made to the actions he took, which could attract more attention to the story overall. Even so, any correlation between the revelation cost and the media's benefit has no impact on credible restraint; k still must be greater than or equal to $\frac{q(1-p)-c}{1-F(j)}$ regardless of β .

Instead, the Watchdog's parameters appear in whether the Executive maintains the minimum cost \underline{k} or shifts to at least $\frac{q(1-p)-c}{1-F(j)}$. In particular, holding fixed its belief about the Executive's strategy, increasing the Watchdog's benefit β and decreasing its marginal cost of effort m weakly increase the Watchdog's investigative effort. This weakly increases $\alpha e^*(1)$ and $g(e^*(1))$, both of which decrease Proposition 1's cutpoint. In turn, the Executive is more inclined to increase the revelation cost k.

Regardless of the avenue of institutional reform, a critical takeaway here is not that

we would expect to see the Executive create a blanket ban on all covert activity. Rather, the Executive chooses to reform issue areas that are already controversial. Although we only discuss a subset of issue areas in this game, one could imagine that executives have a large number of covert activities across a number of issue areas they may or may not engage in, each with distinct values of \underline{k} . We would expect the Executive to endogenously manipulate each type of action with a \underline{k} below the action's associated cutpoint from Proposition 1 and maintain the status quo on the rest.

4 Ford's Reform

To illustrate our model, we explore how the Ford administration responded to various intelligence scandals in the mid-1970s. Our case study conforms to best practices for assessing formal models using qualitative methods. We leverage declassified documents and secondary sources to assess how changes to the parameters of the game corresponded to behavioral changes for the actors in our model (Goemans and Spaniel 2016; Lorentzen, Fravel, and Paine 2017).

The discussion proceeds in three stages. The first offers an overview of the period from 1947 to mid-1974. In an era of Congressional and public indifference, presidents faced few incentives to unilaterally raise the costs of getting caught conducting covert actions of various kinds. The second stage analyzes a shock to the parameters of the game. By late-1974, default revelation costs rose due to Watergate, news stories detailing intelligence abuses, and the infamous assassination report. Given the the rightward shift in default revelation costs, Ford should have entrenched his commitment to avoiding the sins of predecessors, thereby preventing costly and unwanted investigations down the line. But he needed to do more than make promises.

One option was to raise revelation costs. Another was to make it easier for whistleblowers to come forward in the event of wrongdoing. Ford did both. Consistent with Proposition 1, he outlawed one of the most contentious covert actions, political assassinations, and created an Intelligence Oversight Board to facilitate whistleblowing in the event of misbehavior.

4.1 The Age of Deference

From the Central Intelligence Agency's creation in 1947 through the mid-1970s, Congress and the public alike showed extreme deference to presidents in most intelligence matters (Daugherty 2004, 91); Johnson 1989, 105). A couple examples illustrate these dynamics. Republican Senator Leverett Saltonstall proclaimed in 1955: "It is not a question of reluctance on the part of CIA officials to speak to us. Instead it is a question of our reluctance, if you will, to seek information and knowledge on subjects which I personally ... would rather not have." Robert Gates, a former director of the CIA, lends further credence to these statements: "The mechanism for oversight clearly existed; what was missing was an interest in using it—or, more properly speaking, a consensus that would legitimize its use." 17

Although evidence is harder to come by, the American public also appeared uninterested in holding presidents to account for pursuing risky covert operations. In a poll administered after the Bay of Pigs—a failed covert action plan to unseat Fidel Castro—55% of those surveyed approved of "the way the United States government ha[d] dealt with Fidel Castro and his government in Cuba"; 28% disapproved and 17% had no opinion (Rogers et al. 1967, 248). Though circumstantial, these numbers support the notion that the majority of the American public was not keen on punishing presidents for doing things like secretly attempting to topple foreign regimes. The fact that the operation was a humiliating defeat for the new president renders this deference even more surprising.

With regard to our model, the foregoing supports the notion that the revelation cost \underline{k} was low at this time—i.e., below the critical cutpoint in Proposition 1 such that the president's utility was on the leftmost part of Figure 1. Neither Congress nor the public seemed keen on overseeing covert operations of any kind. The model predicts that executives will not create additional costs to conduct covert operations. As expected, they did not.

¹⁶Quoted in Daugherty 2004, 92.

¹⁷Quoted in Lester 2015, 97.

4.2 A Shock to the System

This section explores how a shock to the system in the mid-1970s changed how Congress, the media, and the public thought about covert operations. The most prominent scandal at the time was Watergate, though there were others as well. A series of high-profile media stories detailing various abuses and excesses by the intelligence services generated concern. One such story, written by Seymour Hersh for the *New York Times* in September 1974, outlined the United States' covert efforts to destabilize the democratically-elected government of Salvador Allende. (Greene 1995, 104). A second story from Hersh broke on December 22, 1974. He opened with a bombshell: "The Central Intelligence Agency, directly violating its charter, conducted a massive, illegal domestic intelligence operation during the Nixon Administration against the antiwar movement and other dissident groups in the United States, according to well-placed Government sources."

The fallout was intense. Director Colby wrote that, "All the tensions and suspicions and hostilities that had been building about the CIA since the Bay of Pigs, and had risen to a combustible level during the Vietnam and Watergate years, now exploded." ¹⁸ Kitts (1996, 1082-1083) confirms that, "The public outcry which followed presented an unwelcome challenge to President Ford. He found himself at the center of a political storm which, at its extreme, challenged his authority over a significant part of the national security apparatus." Public outrage was matched in Congress by the imposition of new reporting requirements on presidents interested in taking covert action. The Hughes-Ryan Amendment of 1974 mandated that the White House issue a "Finding" to Congress when embarking on covert operations (Daugherty 2004,93). The creation of the United States Senate Select Committee to Study Governmental Operations with Respect to Intelligence Activities in 1975—informally known as the Church Committee—compounded the administration's problems by publishing an interim report that same year detailing a range of attempted assassination plots against foreign leaders, including Fidel Castro of Cuba and Patrice Lumumba of the Congo (Greene 1995, 111-112). The Committee's final report was published in 1976. All of this was a significant break from the past when the executive was given wide birth in intelligence matters.

These developments bear on our model in important ways. Recall that exogenous

¹⁸Quoted in Lester (2015:77).

increases in \underline{k} (the baseline revelation cost) can change whether the executive seeks reform. If it is sufficiently low (relative to the probability of success, the cost of implementation, and the likelihood a whistleblower comes forward), the executive maintains the status quo. This is what we saw in the previous section. But a sufficiently large increase to \underline{k} results in reforms. Such increases might stem from domestic shifts in tolerance for foreign meddling, changes to secrecy laws, and norms regarding checks and balances.

The events described in this subsection approximate such changes. The costs of getting caught conducting covert missions plausibly went up owing to heightened public attentiveness and anger at perceived executive abuse over a number of decades, specifically as it relates to domestic spying, assassination, and meddling in foreign democratic elections. The passage of Hughes-Ryan also ostensibly elevated the costs for getting caught embarking on normatively questionable covert operations. Presidents could either plead their case with Congress and risk being turned down or circumvent them entirely in violation of the law. With respect to Figure 1, the world shifted from being below the first cutpoint to now being above it. Given this, our model predicts that Ford would further facilitate potential punishment for certain kinds of covert operations. The next section details two of his strategies to do this.

4.3 Aftermath

The conventional wisdom in the literature is that Ford, anticipating a Congressional investigation into America's prior covert operations, seized the initiative by creating the Rockefeller Commission (Johnson 2015, 6). "It was thought," notes Lester (2015, 90), "that responsive presidential reaction to the alleged abuses could curb the other investigations, demonstrate leadership, and allow the president to frame and control criticism." Similarly, Kitts (1996, 1084) argues that "[t]here is ample evidence to suggest that the desire to preempt congressional action was a powerful force in the decision to appoint the [Rockefeller] commission." The creation of the aforementioned Church Committee, and a companion committee in the House of Representatives, reveal that such efforts were unsuccessful.

While the urge to preempt Congressional inquiries into the CIA's past by standing up the Rockefeller Commission is revealing, it is only part of the story. Specifically,

it overlooks the existence of, and motivations behind, Ford's forward-looking proposals to the intelligence community. As we demonstrate below, Ford was interested in more than just controlling the narrative surrounding prior actions within a narrow arena, i.e., what the CIA had been doing inside the U.S. He wanted to signal that his and future administrations would not pursue nefarious covert operations either at home or, more germane to the current discussion, abroad. But how? Promises alone would have been insufficient to allay watchdog concerns, especially because the operations in question were carried out in secret. To credibly commit to Congress and the public, Ford undertook a series of reforms that increased both the probability of, and punishment for, getting caught. These reforms, we argue, enabled Ford to refrain from scandalous covert behavior in the future and reduced the need for investigations.

Before turning to the substance of the reforms, it will be useful to take stock of how policymakers were thinking about the strategic problem before them. Declassified documents from the aftermath of Watergate and the Hersh revelations reveal that senior officials wanted to credibly commit the Ford Administration to restraint. During a conversation with Chief of Staff Donald Rumsfeld on December 23, 1974, Henry Kissinger quipped, "[w]e should act in such a way as to make it perfectly clear that these activities ante-dated the current Administration and that this Administration is acting forthrightly to insure that no such activities will occur during President Ford's Administration" (FRUS, nd). A memo to President Ford from Kissinger and two other senior officials dated September 5, 1975 contains similar themes. The major challenge at hand, they noted, was "to prevent future abuses and to strengthen Presidential oversight of the intelligence agencies" with the ultimate goal of "tak[ing] the initiative in imposing stricter controls over the intelligence agencies and to demonstrate to the Congress and the public that [Ford's] actions will be effective." 19

The primary vehicle by which the Ford administration sought to realize this vision was Executive Order 11905, signed on February 18, 1976. Ford's executive order "was truly unprecedented in its scope and was clearly intended to be the open, public charter that many critics had been advocating for some time" (Oseth 1985, 91). Among the many reforms outlined in Ford's sweeping executive order, two in particular are salient for our theory. The first was the creation of an Intelligence Oversight Board that facilitated intra-executive whistleblowing. The second was a ban on political assassinations.

¹⁹Buchen, Lynn, and Kissinger 1975; emphasis added.

We will discuss each of these in turn.

Early deliberations in late-1974 reveal an interest by some senior officials in forging new channels for oversight over intelligence operations with an eye toward Congress. William Colby penned a memo to President Ford on December 21, 1974 urging the administration to consider "discuss[ing] with the Congressional leadership the establishment of a Joint Committee on Intelligence." ²⁰ Such a committee, Colby argued:

"[W]ould in my opinion be a vehicle for the full Senate and House to establish firm procedures with respect to access to sensitive intelligence matters, appoint appropriate Congressional membership and staff support necessary to the oversight of our activities by the Congress, and clearly identify the individual Senators and Congressmen who would have both the authority and the position from which to assure the Congress and our public of their conclusions with respect to the value and propriety of our activities." ²¹

Kissinger communicated support for Colby's proposal in a letter to Ford on January 10, 1975: "Faced with mounting pressures, which are likely to be accentuated by further revelations and the advent of the new Congress, I believe that support for the Joint Committee on Intelligence concept could provide an orderly method of conducting Congressional oversight, while affording protection for the security of CIA operations, and meeting Congressional and public demands for closer oversight."

Though the Ford administration continued to advocate for a Joint Committee into 1976 (Oseth 1985, 99), EO 11905 instantiated a different oversight mechanism in the form of an Intelligence Oversight Board (IOB). The IOB, comprised exclusively of government outsiders, "receive[d] and consider[ed] reports by Inspectors General and General Counsels of the Intelligence Community concerning activities that raise questions of legality or propriety" and, in the event wrongdoing was detected, could relay information to the Attorney General (Ford 1976). We argue that the new IOB served to encourage intra-executive whistleblowers to communicate concerns about illegal or improper covert activities to relevant authorities while simultaneously increasing the costs presidents would face for circumventing or ignoring the body to conduct controversial covert operations (Oseth 1985, 96).

²⁰Emphasis in original.

²¹Emphasis in original.

In addition to the creation of an IOB, EO 11905 also articulated the first-ever ban on political assassinations, a move that served as a direct response to allegations about past presidents conducting these kinds of operations. The precise language read as follows: "Prohibition of Assassination. No employee of the United States Government shall engage in, or conspire to engage in, political assassination." Of course, the assassination ban could not physically stop the executive branch from undertaking such activities covertly. Nevertheless, instituting and subsequently violating the ban would add costs for Ford and his successors if caught. The model indicates that this makes forgoing these controversial covert actions credible, especially as the creation of the IOB increased the probability that any such attempts would be exposed.

One plausible interpretation of these events is that Ford's initiatives were attempts to enable the White House, rather than Congress, to be the agenda setter. By moving first to propose reforms to the intelligence community, so the argument goes, the administration might have the upper hand. This argument, though plausible, is incomplete. In particular, it has difficulty accounting for the specific content of Ford's executive order. Our model, however, does exactly that by showing why Ford would want to resolve the underlying credibility problem between the White House and Congress by creating new opportunities and incentives for whistleblowers to come forward and to outlaw particularly egregious activities like political assassinations.

Ford's address to Congress the day he signed the order are instructive in this regard: "[T]here were some abuses. Let's be honest and frank. They were minor in total although serious where they were actually committed. Under the new organization with the new restrictions that I have applied, there will be no abuses." Declassified documents from the time echo the president's public remarks. A memo from a National Security Council staffer to Brent Scowcroft, the Assistant for National Security Affairs, read: "EO 11905 addresses in some form or another most of the issues raised by the report. The argument—aside from what form of oversight Congress should exercise—then becomes one of whether legislation in areas other than those already proferred [sic] (electronic surveillance, secrecy protection) is necessary." In the final meeting of the National Security Council of the Ford administration, then-CIA Director George

²²Ford (1976); emphasis in original.

²³Central Intelligence Agency (2007); emphasis added.

²⁴Matheny (1976); original contains emphasis.

H.W. Bush told his boss, "Mr. President, the Executive Order has proved to be a major contribution to reform by putting the Intelligence Community within the proper constitutional framework. It has not received the proper credit on the Hill, but there is some realization of its value and the basic concept will probably not be thrown out" (National Security Council. United States. 1977).

5 Conclusion

This article examined the formation of institutions designed to limit executives abusing their covert power. We showed that executives voluntarily increase their punishment for taking certain covert actions and their likelihood of getting caught. In the absence of such institutional reforms, watchdog organizations will exert great effort to uncover the executive's decision. To avoid the costs of investigation, executives make covert action look less attractive. Despite watchdogs' inability to effectively monitor the executive's decision, the executive can nevertheless credibly commit to inaction.

The model and evidence presented here have important implications. One has to do with the use of covert action in the so-called War on Terror. Our model and case evidence suggests that if revelation costs exogenously decrease, perhaps in the face of new threats that make the public, the media, and Congress more willing to grant the president greater latitude over intelligence issues, some of the institutional reforms explored above may be scaled back. This might have happened in the aftermath of 9/11, when the threat of terrorism buoyed the Bush administration's powers to combat it. Bush's efforts in 2008 to de-fang the Ford-era Intelligence Oversight Board serve as an illustrative example of such a phenomenon. While re-affirming the existence of an IOB in Executive Order 13462, George W. Bush nevertheless altered its core features by removing the notable provision from Ford's Executive Order which had made it easier for intra-executive whistleblowers to come forward (Bush 2008).

6 Appendix

Before addressing the lemmas from the article, we must first prove the Watchdog's equilibrium effort strategy. Recall that ϕ represents the Watchdog's belief that the Executive took covert action. Then the Watchdog's payoff as a function of e is

$$\phi\beta(g(e)) + \phi\beta(1 - g(e))(1 - F(j)) - me$$

where the first term reflects the probability the Watchdog uncovering the covert action, the second term reflects the probability the Whistleblower reveals the covert action after the Watchdog fails, and the last term is the Watchdog's cost of effort.

The first order condition is

$$g'(e) = \frac{m}{\phi \beta F(j)}$$

Recall that g''(e) < 0. Thus, the left side of the first order condition is strictly decreasing in e. The right side is constant. In turn, if a solution exists, it is unique. Call that solution e'. If $g(e') \in [0,1]$, then the Watchdog selects that amount.²⁵ If g(e') > 1, then the Watchdog instead chooses the solution to g(e) = 1; this is the minimum amount of effort necessary to guarantee revelation, and any more effort is wasted.

Finally, it is possible that no solution exists. This could be because g'(e) is strictly decreasing, and g'(0) may already be less than $\frac{m}{\phi\beta F(j)}$. In that case, the Watchdog chooses e = 0.

6.1 Proof of Lemma 1

We search for equilibria by investigating three possible cases: the Executive takes covert action with certainty, the Executive does not take covert action with certainty, and the Executive mixes between the two.

Let σ be the probability that the Executive takes covert action. First, suppose that $\sigma=1$. Common knowledge of strategies means that the Watchdog infers that $\sigma=1$ in any equilibrium with that quality. Let ϕ_S be the Watchdog's posterior belief after observing policy success and ϕ_F be the Watchdog's posterior belief after observing policy failure. If $\sigma=1$, $\phi_S=\phi_F=1$; that is, the Watchdog knows the Executive took covert action regardless of the observable outcome. In turn, the Watchdog exerts $e^*(1)$ effort and uncover the covert action with probability $g(e^*(1))$. Failing that, the

²⁵That solution maximizes the Watchdog's utility function because the second derivative is $\phi \beta F(j)g''(e)$, which is negative.

probability that a whistleblower steps forward is 1 - F(j). All told, the Executive's payoff for such an outcome equals:

$$(1 - pq)(1) + pq(0) - c - k[g(e^*(1)) + (1 - g(e^*(1)))(1 - F(j))] - \alpha(e^*(1))$$
 (1)

The Executive's possible deviation is to switch to not conducting the covert action. Because equilibria only check against unilateral deviations, the Watchdog maintains the beliefs that ϕ_S and ϕ_F equal 1 and therefore exerts $e^*(1)$ effort. In turn, the Executive's expected payoff for this deviation is:

$$(1-q)(1) + q(0) - \alpha(e^*(1)) \tag{2}$$

Note that the $-\alpha(e^*(1))$ term appears in both Equations 1 and 2. This is because if the Watchdog is under the (potentially false) impression that the Executive always takes the covert action, it will exert the same effort regardless of what the Executive actually chooses. Thus, this portion of the payoff has no effect on the Executive's preference. Rather, the Executive has no profitable deviation from taking covert action with probability 1 if:

$$(1 - pq)(1) + pq(0) - c - k[g(e^*(1)) + (1 - g(e^*(1)))(1 - F(j))] - \alpha(e^*(1))$$

$$\ge (1 - q)(1) + q(0) - \alpha(e^*(1))$$

$$k \le \frac{q(1-p) - c}{1 - F(j) + g(e^*(1))F(j)} \tag{3}$$

This is the constraint that appears in Lemma 1.

6.2 Proof of Lemma 2

Under Lemma 2, the Executive does not take covert action with certainty. Common knowledge of strategies means that the Watchdog infers that $\sigma = 0$ in any equilibrium with that quality. Thus, $\phi_S = \phi_F = 0$. In turn, the Watchdog exerts no effort. In turn, $e^*(0) = 0$, and so the Watchdog uncovers the covert action with probability 0 (because

there is no covert action to uncover). No whistleblowers step forward either because there is no whistle to blow. The executive's payoff is simply:

$$(1-q)(1) + q(0) (4)$$

The Executive's possible deviation is to switch to conducting covert action. Again, because equilibria only check against unilateral deviations, the Watchdog maintains the beliefs that ϕ_S and ϕ_F are equal to 0 and therefore exerts $e^*(0) = 0$ effort. In turn, the Executive's expected payoff for this deviation is:

$$(1 - pq)(1) + pq(0) - k[1 - F(j)]$$
(5)

Comparing Equations 4 and 5, the Executive cannot profitably deviate if:

$$(1-q)(1) + q(0) \ge (1-pq)(1) + pq(0) - k[1-F(j)]$$

$$k \ge \frac{q(1-p) - c}{1 - F(j)}$$
(6)

This is the constraint that appears in Proposition 2.

6.3 Proof of Lemma 3

The final possible strategy for the Executive requires mixing between taking covert action and not taking covert action. The previous proofs have shown the conditions under which pure strategy equilibria exist. Specifically, these findings show that no pure strategy Nash equilibria exist when $k \in (\frac{q(1-p)-c}{1-F(j)+g(e^*(1))F(j)}, \frac{q(1-p)-c}{1-F(j)})$. Because the media's strategies are compact and utility functions are continuous, the game has an equilibrium. With all other options exhausted, the equilibrium entails the Executive mixing between taking covert action and not. The remainder of this subsection characterizes that equilibrium.

To begin, mixing between those pure strategies requires the Executive to be indifferent between them. Generalizing from the utility functions from above, the Executive's expected utility for not taking covert action equals:

$$(1-q)(1) + q(0) - \alpha[e^*(\phi_S)(1-q) + e^*(\phi_F)q]$$
(7)

where ϕ_S and ϕ_F are properly updated via Bayes rule using the Executive's mixed strategy σ .

Meanwhile, the Executive's general payoff for taking covert action equals:

$$(1 - pq)(1) + pq(0) - c - k(\bullet) - \alpha[e^*(\phi_S)(1 - pq) + e^*(\phi_F)pq]$$
(8)

where
$$k(\bullet) = k[(1 - pq)[1 - F(j) + F(j)g(e^*(\phi_S))] + pq[1 - F(j) + F(j)g(e^*(\phi_F))]].$$

Setting Equations 7 and 8 equal to each other generates the indifference condition. The Watchdog's strategy makes the Executive indifferent by exerting just enough effort that the risk of getting caught taking covert action perfectly balances the potential benefits. However, the Watchdog's effort is a function of its belief that the Executive took covert action, which is itself a function of the Executive's mixed strategy. Bayes rule generates those beliefs:

$$\phi_S = \frac{\sigma(1 - pq)}{\sigma(1 - pq) + (1 - \sigma)(1 - q)} = \frac{\sigma(1 - pq)}{1 - q + \sigma q(1 - p)}$$
$$\sigma_F = \frac{\sigma pq}{\sigma pq + (1 - \sigma)q}$$

Rewriting Equation 7 with this yields:

$$1 - q - \alpha \left[e^* \left(\frac{\sigma(1 - pq)}{1 - q + \sigma q(1 - p)}\right) (1 - q) + e^* \left(\frac{\sigma pq}{\sigma pq + (1 - \sigma)q}\right) q\right]$$
(9)

And rewriting Equation 8 with this yields:

$$1 - pq - c - k(\bullet) - \alpha \left[e^* \left(\frac{\sigma(1 - pq)}{1 - q + \sigma q(1 - p)}\right) (1 - pq) + e^* \left(\frac{\sigma pq}{\sigma pq + (1 - \sigma)q}\right) pq\right] (10)$$

Thus, in equilibrium, the Executive plays the mixed strategy σ that makes Equation 9 equal to Equation 10. Because no pure strategy equilibria exist for $k \in \left(\frac{q(1-p)-c}{1-F(j)+g(e^*(1))F(j)}, \frac{q(1-p)-c}{1-F(j)}\right)$, such a σ must exist.

Nevertheless, we have yet to fully exhaust possible equilibria. The proofs for Lemmas 1 and 2 showed that pure strategy equilibria exist in their respective parameter ranges. They have not demonstrated that no mixed strategy equilibrium exists as well. Lemma 2's range is straightforward. There, the revelation cost is so high that the Executive would not want to take covert action even if the Watchdog exerted no effort. Moreover,

the Executive's utility for taking covert action decreases in the Watchdog's effort. Thus, no mixed strategy exists that can induce a Watchdog effort strategy that makes the Executive indifferent.

Lemma 1's range is more nuanced. There, the revelation cost is low enough that the Executive would take covert action even if the Watchdog exerted full effort. Mixed strategy equilibria cannot exist for the lower part of this parameter space. Recall that the utility for both taking covert action and not taking covert action are decreasing in the Watchdog's belief that the Executive took covert action. Thus, if the Executive's utility for taking covert action with probability 1 when the Watchdog believes $\sigma=1$ is greater than the Executive's utility for not taking covert action with probability 0 when the Watchdog believes $\sigma=0$, then the Executive's utility for taking covert action is greater than his utility for not taking covert action regardless of the Watchdog's belief. Formally, this requires:

$$1 - pq - c - k[1 - F(j) + F(j)g(e^*(1))] - \alpha e^*(1) > 1 - q$$
$$k < \frac{q(1 - p) - c - \alpha e^*(1)}{1 - F(j) + F(j)g(e^*(1))}$$

Under these conditions, no mixed strategy can result in equilibrium effort from the Watchdog that makes the Executive indifferent. Therefore, Lemma 1's equilibrium strategies are unique when $k < \frac{q(1-p)-c-\alpha e^*(1)}{1-F(j)+F(j)g(e^*(1))}$. Note for later that this is the cutpoint appearing in Proposition 1.

When $k > \frac{q(1-p)-c-\alpha e^*(1)}{1-F(j)+F(j)g(e^*(1))}$ (but still less than $\frac{q(1-p)-c}{1-F(j)+F(j)g(e^*(1))}$), the Executive's utility for covert action is not necessarily always greater than his utility for not taking covert action. Depending on the specific functional form for how effort maps to a probability of getting caught, there may be a mixed strategy that sets Equation 9 equal to Equation 10. If such a mixed strategy exists, then an equilibrium exists with strategies defined as in Lemma 3.

Leaving the functional forms general would be a problem if the potential multiple equilibria would impact Proposition 1. Fortunately, whether the equilibrium is unique on that range is irrelevant. To see why, recall that all mixed strategy equilibria have expected utilities lower than the equilibrium utility for values of $k \geq \frac{q(1-p)-c}{1-F(j)}$. Also recall that the pure strategy equilibrium from Lemma 1 has an expected utility lower than the equilibrium utility for values of $k \geq \frac{q(1-p)-c}{1-F(j)}$ if $k > \frac{q(1-p)-c-\alpha e^*(1)}{1-F(j)+F(j)g(e^*(1))}$. Therefore, in the

region where multiple equilibria could exist, the utilities associated with all equilibria are strictly worse than endogenously choosing a k at least as large as $\frac{q(1-p)-c}{1-F(j)}$. In turn, it does not matter which equilibrium the players expect to play. Either way, the Executive chooses that larger k value.

7 References

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